


INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 306/02657	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/IL 02/00664	International filing date (day/month/year) 12.08.2002	Priority date (day/month/year) 14.03.2002
International Patent Classification (IPC) or both national classification and IPC H04B10/18		
Applicant AELIS PHOTONICS (ISRAEL) LTD. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 13.10.2003	Date of completion of this report 10.05.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Ribbe, A Telephone No. +49 89 2399-6054



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/IL 02/00664**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-18 as originally filed

Claims, Numbers

1-37 as originally filed

Drawings, Sheets

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-33
	No: Claims	1, 34-37
Inventive step (IS)	Yes: Claims	
	No: Claims	1-37
Industrial applicability (IA)	Yes: Claims	1-37
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: WO0167644

D2: WO0219001

D3: WO9710658

D4: US6137604

Novelty

- 2.1 Using the wording of the present claim 1, the document D3 discloses (the references in parentheses applying to figure 2 of this document):

Apparatus for correcting distortion (20) on an optical transmission link carrying a multiplicity of optical transmission channels (14), the apparatus comprising:
an adjustable optical equaliser (20), through which a plurality of said channels pass;

a field sampler that samples signals passing through said equaliser, such that a plurality of channels passing through the adjustable equaliser are separately sampled (25) , and

a controller (26) that receives the samples, determines control parameters for the equaliser therefrom and adjusts the equaliser, responsive to said determined control parameters (27,28).

The subject-matter of claim 1 is therefore **not novel** (Article 33(2) PCT).

- 2.2 The Applicant states that claim 34 clearly defines a system in which the input signal is split into two paths in a parallel manner as in figure 4 of the application, however the present claim 34 also encompasses a system having a main line and a side line as described in D3, figure 4.

Referring again to figure 4 of D3, the first correction apparatus (filter 30) is placed

on the side path and the second correction apparatus (filter 20) is placed on the main line. The beam splitter (22,23) splits the signal into two paths (main line and side path), each carrying substantially the same channels. The controller adjusts the parameters of the main line filter responsive to the compensation in the side path.

The subject-matter of claim 34 is therefore **not novel** (Article 33(2) PCT).

- 2.3 Furthermore, the additional features of claims 35-37 are all disclosed in D3 and are therefore **not novel** (Article 33(2) PCT).

Inventive step

- 3.1 The additional features of claims 2-5, 9, 13-15 and 33 are all disclosed in D1.
- 3.2 The additional feature of claims 6-8, where the tunable optical filters comprise a beam splitter and differential delay is known from document D2.
- 3.3 The additional features of claims 16-32 are all different variations on how the controller determines and sets the initial control parameters. These methods are all well known and obvious for the man skilled in the art.
- 3.4 The dependent claims 10-12 refers to an embodiment where some of the channels are passed through an additional distortion correction apparatus. To divide the wavelength band into sub-bands and then correct each sub-band individually is well known from the prior art, see for example document D4, abstract and figure 2.

Hence, claims 2-33 of the present application **cannot be considered as involving an inventive step** (Article 33(3) PCT).